

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An acceleration control device including means for calculating an aimed accelerator opening A_c on a basis of an information of a displacement amount A_m of an accelerator pedal and a vehicle speed V and means for outputting a control signal such that a difference Δ of an accelerator opening

$$\Delta = A_m - A_c$$

approaches zero, comprising actuation means (1) for automatically starting a calculation of the aimed accelerator opening A_c when a usual running state of a vehicle is detected on the basis of an information including the vehicle speed V ,

wherein an input information of said actuation means for detecting the running state of said vehicle includes, in addition to the vehicle speed V , the displacement amount A_m , a fuel flow rate F and a gear position T_m .

2. (Currently Amended) The acceleration control device as claimed in claim 1, further comprising calculation means (2, 3, 4, 5 and 6) for calculating the aimed accelerator opening A_c by using a speed difference δ between a virtual aimed speed V_t and a vehicle speed V

$$\delta = V_t - V$$

by sequentially setting the virtual aimed vehicle speed V_t for every small range of change on the basis of the difference Δ of the accelerator opening and the vehicle speed V .

3. (Canceled)

4. (Currently Amended) The acceleration control device as claimed in ~~claim 3~~ claim 1, wherein said calculation means (2,3,4,5,6) comprises accelerator opening difference detection means (2) for identifying the difference Δ of the accelerator opening an aimed acceleration calculating means (3) for obtaining an aimed acceleration α_t from an output of said accelerator opening difference detection means (2), virtual aimed vehicle speed calculation means (4) for obtaining the virtual aimed vehicle speed V_t from the aimed acceleration α_t and an initial vehicle speed V_0 at an actuation time detected by said actuation means (1), speed difference calculation means (5) for obtaining the speed difference δ from the virtual aimed vehicle speed V_t and the vehicle speed V and auto-cruising control means (6) for calculating the aimed accelerator opening A_c from the speed difference δ and the initial accelerator opening A_0 generated by said actuation means (1).

5. (Currently Amended) The acceleration control device as claimed in claim 4, wherein said actuation means (1) includes means for generating, as a signal for automatically actuating the calculation control, the initial vehicle speed V_0 and the accelerator opening A_0 at that time.

6. (Currently Amended) The acceleration control device as claimed in claim 4, wherein said acceleration opening difference detection means (2) has a dead zone in a portion in the vicinity of the difference Δ of the accelerator opening, in which the difference Δ is zero, the difference Δ of the accelerator opening in the dead zone being outputted by said acceleration opening difference detection means as always zero.

7. (Currently Amended) The acceleration control device as claimed in claim 4, wherein said aimed acceleration calculation means (3) includes a function $a_t = (\Delta, V_t)$ map having the difference Δ of the accelerator opening and the virtual aimed vehicle speed V_t as variables.
8. (Currently Amended) The acceleration control device as claimed in claim 4, wherein said virtual aimed vehicle speed calculation means (4) includes means for calculating the virtual aimed vehicle speed V_t by integrating and adding the aimed acceleration a_t obtained from said aimed acceleration calculation means (3) to the initial vehicle speed V_0 every certain time.
9. (Currently Amended) The acceleration control device as claimed in claim 4, wherein the speed difference δ is feedback to said aimed acceleration calculation means (3).
10. (Currently Amended) The acceleration control device as claimed in claim 9, wherein said aimed acceleration calculation means (3) includes means for restricting a transmission of a new aimed acceleration to a limited value when the speed difference δ is larger than a predetermined value.
11. (Currently Amended) The acceleration control device as claimed in claim 9, wherein said aimed acceleration calculation means (3) includes means for inhibiting a transmission of a new aimed acceleration when the speed difference δ is negative.
12. (Currently Amended) The acceleration control device as claimed in claim 4, further comprising means for temporarily inhibiting the control of said auto-cruising control means (6), when the difference Δ of the accelerator opening has a negative value over a negative

side predetermined value, and inputting the accelerator pedal displacement information A_m or a regular function thereof as an acceleration input of an engine.

13. (Currently Amended) The acceleration control device as claimed in claim 12, wherein the negative side predetermined value is set to a value equal to a lower limit of ~~the dead zone defined in claim 6~~ a dead zone, defined by said acceleration opening difference detection means, in a portion in the vicinity of the difference Δ of the accelerator opening, in which the difference Δ is zero, the difference Δ of the accelerator opening in the dead zone being outputted by said acceleration opening difference detection means as always zero.

14. (Currently Amended) The acceleration control device as claimed in claim 12, further comprising means for automatically actuating said actuation means (1) when an absolute value of the difference of accelerator opening becomes smaller than a predetermined value in the state where the control is temporarily inhibited.

15. (Currently Amended) The acceleration control device as claimed in claim 4, further comprising means for temporarily inhibiting the control of said auto-cruising control means (6) in a state where a specific operation is performed by a driver and inputting the accelerator pedal displacement information A_m or a regular function thereof as an acceleration input of an engine.

16. (Original) The acceleration control device as claimed in claim 15, wherein the specific operation includes an operation of a direction indicator and a stepping of the accelerator pedal deeper than a predetermined value.

17. (Currently Amended) The acceleration control device as claimed in claim 15, further comprising means for automatically actuating said actuation means (4) when the temporary inhibition of the control is released.

18. (Currently Amended) The acceleration control device as claimed in claim 15, further comprising means for automatically actuating said actuation means (4) when the running state of said vehicle is under a predetermined condition in the state where the control is temporarily inhibited.

19. (Currently Amended) The acceleration control device as claimed in claim 7, wherein said aimed acceleration calculation means (3) includes means for taking in the accelerator pedal displacement information A_m as the input information and means for temporarily changing said map when a state in which the accelerator pedal displacement information A_m is larger than a predetermined value continues for a time longer than a predetermined time to generate a larger aimed acceleration α_t .

20. (Currently Amended) The acceleration control device as claimed in claim 4, wherein said auto-cruising control means (6) includes means for taking in the accelerator pedal displacement information A_m and means for temporarily increasing a control gain when a time-differentiated value of the accelerator pedal displacement information A_m exceeds a positive side predetermined value.

21 - 23. (Canceled)